

¶ latitude/longitude data-acquisition apparatus also so [carryable] mountable and including means capable of outputting a latitude/longitude positional data stream, said thermal and latitude/longitude data-acquisition apparatuses being functional simultaneously to acquire time-related and positionally related data,

¶ thermal and latitude/longitude data-recording apparatus also so [carryable] mountable and including plural recording channels each capable of recording time-synchronous thermal and latitude/longitude data,

¶ means operatively connecting said [two data-acquisition apparatuses] thermal data-acquisition apparatus, said latitude/longitude data-acquisition apparatus and said data-recording apparatus including switching means interposed the latter and said thermal data-acquisition apparatus operable to direct selectively to different channels different isothermally differentiated, fire-perimeter data streams to different channels,

¶ data reading and analyzing means operatively couplable to said data-recording apparatus for extracting therefrom and analyzing data contained in each of said channels, and being operative, as a consequence of having analyzed such data, to produce an X-Y graphic-plotter control signal effective to drive such a plotter in a manner causing the same to create a perimetral outline of a fire reflected in the data contained in the channels, with this outline containing line characteristics that are different from one another, with each such line characteristic being specific to a different one of the isothermal characteristics selected for recording in the different channels, and

¶ an X-Y graphic plotter operatively connected to said reading and analyzing means for receiving and responding to a control signal produced by the latter to produce a proper-scale registrable overlay of the perimetral outline of an observed fire, with such

outline having ^{said} ~~the~~ different line characteristics ~~just mentioned~~ suitable for registered overlaying onto an in-scale, related topographic map.

2. (Amended) The system of claim 1 which further includes an optical data-acquisition subsystem for acquiring and recording an optical depiction of the fire area ["viewed"] viewed by the thermal data-acquisition apparatus, all for the purpose of permitting selected visual overlay of recorded optical and recorded thermal information.

(Amended) A method for creating a temperature-level-differentiated, visually readable, perimetral outline of a ground fire, with such outline being suitable for in-scale, registered overlay of a related topographic map [and the like], said method comprising

acquiring and recording data to illustrate thermally, and in selected, differentiated isothermal levels, the perimetral outline of a ground fire,

linking, on a common time basis with such data, related latitude/longitude positional data,

analyzing all of such data to produce an X-Y graphic-plotter control signal which is effective to drive such a plotter in a manner causing the latter to create a perimetral outline of the fire reflected in the recorded data, with this outline containing line characteristics that are different from one another, with each such line characteristic being specific to a different one of the selected, differentiated isothermal levels, and

utilizing such signal to drive such a plotter for the purpose of causing the latter to produce a proper-in-scale, registrable overlay of the perimetral outline of an observed fire, with such outline having the different line characteristics just mentioned suitable for registered overlaying onto an in-scale, related topographic map.

7A. (Amended) The method of claim ⁶~~3~~ which further includes acquiring and recording an optical depiction of the fire area ["viewed"] viewed thermally, and utilizing such depiction to permit a recordable and visually presentable overlay of time-related thermal and optical imagery.

[Please add the following new claims:]

3-3. The fire-perimeter, temperature-differentiating mapping system of claim 1 further comprising an air-mobile support platform, wherein said thermal data-acquisition apparatus, said latitude/longitude data-acquisition apparatus and said thermal and latitude/longitude data recording apparatus are all supported by said air-mobile support platform.

14. The fire-perimeter, temperature-differentiating mapping system of claim ³~~3~~, wherein said platform is mounted in a rotary-winged aircraft.

5. 5. The fire-perimeter, temperature-differentiating mapping system of claim 1, wherein said thermal data-acquisition apparatus and said latitude/longitude data-acquisition apparatuses are constructed and adjusted to receive thermal and positional information while overflying the fire in multiple passes at an altitude of approximately 50- to 150-feet above the ground surface.

8. The method of claim ⁶~~3~~ further comprising overflying the ground fire in multiple passes.

REMARKS

There are now eight claims pending in the application. Original claims 1 and 2 are directed to a system for producing a perimetral outline of a ground fire suitable for overlaying a topographic map, the system including apparatuses for

claims 6-8

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